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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/579,345	05/25/00	GILTON	T 6047-55230

MM91/0509

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EXAMINER	
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ART UNIT	**PAPER NUMBER**
2814	

DATE MAILED: 05/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No.	Applicant(s)	
	09/579,345	GILTON ET AL.	
	Examiner	Art Unit	
	Steven H. Rao	2814	

-- The MAILING DATE of this communication appears on th cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14,15,20-25,31 and 37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14,15,20-25,31 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

Response to Amendment

Applicants' amendment filed February 21,2001 has been entered on February 27,2001. Therefore claims 14-15, 20-25,31 and 37 as originally filed are currently pending.

Double Patenting

Claims 14-15 , 20-25 , 31 and 37 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of U.S. Patent No. 5,785,875. Although the conflicting claims are not identical, they are not patentably distinct from each other because while the '875 patent does not specifically mention ozone as a cleaner it would be obvious to show ozone as the cleaner (for reasons see below).

Claims 14-15 ,20-25,31 and 37 are directed to an invention not patentably distinct from claims 1and 2 of commonly assigned patent 5,785,875. Specifically, applicants' vaporizing liquid can be water as specified in '875 patent and the applicnat's reactant gas can be isopropyl alcohol as specified in "875 patent claim 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 14 –15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawthorne et al. (U.S. Patent No. 5,785,875, herein after Hawthorne).

With respect to claim 14 , Hawthorne describes a method of fabricating semiconductor wafers including the steps of : vaporizing a liquid solvent that is inert to A material on the wafer surface (Hawthrone col. 4 line 62 , col.5 line 11-14), selecting an reactant gas that is capable of chemically reacting with the material on the wafer surface and incorporating the reactant gas into the vaporized liquid solvent (Hawthrone col. Lines 65-67 and col. 5 lines 1-5) , condensing the vaporized solvent incorporating the reactant gas to form a film on the surface (Hawthrone does not specifically mention condensing but it is inherent when the heated vapor comes in contact with the wafer which is at a lower temperature than the vaporized liquid, it (vaporized liquid) will condense and See col. 5 lines 33-36 for film formation), so that the reactant gas is transported through the film to the material on the wafer surface (Hawthrone col. 5 lines 35-36).

With respect to claim 15 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : flowing the reactant gas over the film such that some of the flowing reactant gas is transported through the film to the surface of the wafer (See col. 5 lines 30-36).

With respect to claim 20 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : placing a liquid layer onto a wafer surface (see cl.14 above), flowing a wafer cleaning gas over the liquid layer so that some of flowing gas is transported through the liquid to the surface of the wafer (Hawthrone col.

5 lines 54-65) and reacting the cleaning gas the wafer surface to clean it (Hawthrone line 54).

With respect to claim 21 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : wherein the liquid is as solvent for the cleaning gas (Hawthrone col. 5 lines 65- col. 6 lines 6).

With respect to claim 22 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : wherein the liquid layer is a thin film on the wafer surface (col. 5 lines 34-36).

With respect to claim 23 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : wherein the liquid is selected from water, perfluorocarbons and mixtures thereof (Hawthrone col. 5 lines 35-36).

With respect to claim 25 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : wherein the solvent is inert to the material on the wafer surface (Hawthrone col. 4 line 63- water is inert to all semiconductor material).

With respect to claim 31 Hawthorne describes a method of fabricating semiconductor wafers including the steps of : Claim 31 includes steps of claims 14-15 and 20 (See description above).

Claims 24 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hawthorne et al. (U.S. Patent No. 5,785,875, herein after Hawthorne) and Iimuro et al. (Japanese Patent Publication No. 1-239933 herein after Iimuro).

With respect to claims 24 and 37 in addition to the steps recited under claims 14-15and 20-23 claims 24 and 37 specify the cleaning gas to be ozone.

Hawthrone does not specifically describe its cleaning gas to be ozone.

Iimuro in its English Abstract line 1 specifies its ashing gas to be ozone. To provide faster cleaning.

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to include Iimuro's ozone as the cleaning gas in Hawthrone's cleaning gas to speed up the treatment (cleaning) process.(Iimuro "Purpose" lines 1-2).

Response to Arguments

Applicant's arguments with respect to claims 14-15,20-25,31and 37 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703- 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-0956.

SHL
5/3/2002

Olik Chaudhuri
Supervisory Patent Examiner
Technology Center 2800